ABSTRACT

A scanner employs Raman spectroscopy for on site automated materials authenticity verification and identification. A technology developed so that operators with little or no technical expertise can perform on site fast nondestructive materials analyses. Automated generation of Raman signatures, and subsequent correlation to spectral fingerprints of known materials provides an ideal means for documentation verification or materials identification in settings like airport ticket counters, U.S. Customs gates, law enforcement vehicles and business offices (such as a physician's examination room). Computer controlled moveable optics provides for a scanning capability to automatically and precisely analyze several locations on a sample. The Raman scanner also provides for on site materials analysis requiring a high level of technical expertise to be done by transmission of the spectral data to a remote location via modem or wireless communications using a transmitter and receiver.